

# CPSC Presentation to National Transportation Safety Board July 12, 2006



## Battery Safety and Consumer Product Recalls

Presented by:

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These comments are those of the CPSC staff, have not been reviewed or approved by, and may not necessarily reflect the views of, the Commission.



# U.S. Consumer Product Safety Commission

- An independent federal regulatory agency created in 1972
- Headed by three Commissioners nominated by the President and confirmed by the Senate for seven-year terms
- FY06 Budget - \$62.149M w/440 FTEs



# U.S. Consumer Product Safety Commission

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# Battery Issues

- Increasing number of consumer products are being powered by batteries
- Primary (non-rechargeable) and secondary (rechargeable) batteries are becoming more powerful
- More high-energy batteries in service increases the likelihood of an unsafe failure
- 23 battery recalls since September 2003, involving 194 incidents w/at least 16 injuries



# CPSC Negotiated Battery Recalls

## Oct. 2003 - Sept. 2004

### 5 Recalls -

- Cell Phone Batteries (140,000 secondary)
  - 4 incidents (1 minor burn injury)
- Flashlight Batteries (12,500 primary)
  - 2 incidents (no injuries)
- Flashlight Batteries (20,000 primary)
  - 5 incidents (4 reports of property damage/injury)
- Cell Phone Batteries (50,000 secondary)
  - 18 incidents (includes property damage/injury)
- Notebook Computer Batteries (28,000 secondary)
  - 4 incidents (no injuries)



# CPSC Negotiated Battery Recalls

## Oct. 2004 - Sept. 2005

### 10 Recalls –

- Cell Phone Batteries (1 million secondary)
  - 14 incidents (property damage/2 minor burns)
- Headlamp Batteries (1,000 secondary)
  - No incidents/injuries
- Portable DVD Player Batteries (47,000 secondary)
  - 11 incidents (5 explosions)/2 burned fingers
- Notebook Computer Batteries (128,000 secondary)
  - 6 incidents/no injuries
- Water Scooter Batteries (2,200 secondary)
  - 9 incidents of explosions/3 facial injuries



# CPSC Negotiated Battery Recalls

## Oct. 2004 - Sept. 2005 Con't

- Notebook Computer Batteries (10,000 secondary)
  - 6 incidents/no injuries
- GPS Navigation System Batt. (10,300 secondary)
  - 15 incidents (overheating/swelling)/no injuries
- Portable DVD Player Batteries (116,000 secondary)
  - 10 incidents (overheating/fire)/no injuries
- Cordless Drill/Driver Batteries (2,000 secondary)
  - 6 incidents (rupturing)/1 injury
- Water Scooter Batteries (475 secondary)
  - 5 incidents (explosion)/2 injuries



# CPSC Negotiated Battery Recalls

## Oct. 2005 – Jun. 2006

### 8 Recalls -

- Notebook Computer Batteries (85,000 secondary)
  - 16 incidents (overheating/melting)/no injury
- Digital Camera Batteries (200,000 secondary)
  - 4 incidents (overheating/melting)/no injuries
- Portable DVD Player Batt. (165,000 secondary)
  - 8 incidents (overheating/melting)/no injuries
- Notebook Computer Batteries (22,000 secondary)
  - 3 incidents (overheating)/no injuries



# CPSC Negotiated Battery Recalls

Oct. 2005 – Jun. 2006 Con't

- Wireless Conference Phone Batteries (21,000 secondary)
  - 2 incidents (overheating)/no injuries
- Wireless Conference Phone Batteries (4,200 secondary)
  - 9 incidents/no property damage/no injuries
- Portable DVD Player Batteries (102,000 secondary)
  - 17 incidents (overheating)/3 minor burn injuries
- Notebook Computer Batteries (4,100 secondary)
  - 20 incidents (overheating)/1 burn injury



# Reasons for Battery Recalls

- Design Problems
  - Lacks safety circuit
  - Lacks adequate (or any) overcharge protection
  - Lacks adequate physical protection
- Quality Control Problems
  - Improper placement of leads
  - Contaminants in cell
  - Uneven forming of cell



# What's Next

- Worst Case
  - Continuing increase in the number and power of batteries in consumer products
  - Continuing increase in the number of incidents of unsafe battery failures
  - Continuing increase in the number of battery recalls



# What's Next

- Best Case
  - Improved physical protection of batteries
  - Improved protective circuitry to detect and prevent damage from both internal and external short-circuits
  - Improved battery chemistry to prevent thermal runaway
  - Happy consumers with long-life batteries that pose little, if any, risk of injury from foreseeable failures



# Questions?



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